Designing the adoption model of electronic banking technology (case study of branches of agricultural banks in Ilam province, Iran)

Abstract

This research examined how agricultural bank clients in Ilam province adopt electronic banking. This research aimed to establish a model for adopting electronic banking technology that may help identify customers' demands and enable agricultural bank management develop suitable strategies. Customers of agricultural bank branches in Ilam province are the study's population. 400 persons were sampled based on Krejcie and Morgan's table. According to the study's aims, quantitative and qualitative methods were applied. The qualitative section uses Delphi. The quantitative part's description and analysis included descriptive and inferential results. In the descriptive statistics portion, farmer traits and vocations were discussed. In the inferential statistics section, the Pearson correlation test was performed to assess the link between the research's primary variables, which demonstrated a positive and significant association. Multivariate linear regression was performed to assess the contribution of each component in explaining the variation of the dependent variable. Willingness to use, simplicity of use, comprehension of application's value, social and cultural factors, technical characteristics, and services utilized explain 0.428 of e-banking technology adoption variation. Also, since the conceptual model of the study was not a simple causal model and featured an intermediate variable (propensity to use electronic banking technology), multivariate linear regression was utilized again, with tendency to use as the dependent variable. The variables of simplicity of use, application usefulness, social and cultural factors, and technical attributes explained 0.172 of the likelihood to utilize electronic banking technology. The study

model's appropriateness was tested using Amos' fit indices. The study findings suggest that explicit variables can assess hidden factors effectively.

Keywords: Technology acceptance, electronic banking, agricultural bank, Ilam province of Iran

Introduction

Today, technological advances have fundamentally changed the world and changed the way people behave in business and personal affairs (Bandura, 2011). The same is true of the banking industry, which over the past two decades has invested significant resources in the use of information technology (Kolodinsky et al., 2010).

From a financial point of view, e-banking can have a significant impact on the discount rate of banking. In particular, e-banking reduces operating and administrative costs, thereby providing significant cost advantages for the banking industry. From a competitive point of view, banking advantages, especially through e-banking, provide an opportunity for banks to compete with large financial institutions (Aladwini, 2010).

Speed of work, sharing information and conducting business transactions with communication networks have become an undoubted principle of success in the market today. The main feature of all these activities is to facilitate processes, reduce costs by increasing coordination, improving customer access and increasing the variety of services provided to customers. In addition, having an efficient banking system is one of the basic requirements for the development of e-commerce in the country, as well as entering global markets and membership in organizations such as the World Trade Organization. However, the key factor in accepting electronic banking is customer trust and satisfaction with the bank, which indirectly affects the acceptance of electronic banking. On the other hand, customer participation in accepting e-banking is very important, because it reduces or eliminates interactions between the organization and the customer (Natarajan et al., 2011).

On the other hand, despite the advent of these technological systems, innovative e-banking that is designed to increase the well-being of our lives and facilitate daily activities, user acceptance has a kind of time delay and the number of users of this type of service is growing. Has not shown (Aladwini, 2010). In other words, although internet banking is profitable for banks and customers, customers are still afraid of the risk of using this type of banking services and some customers even feel that internet banking services will cause them to lose their liquidity in the bank. Hence, a large

group of customers refuse to accept services of this type of banking (Natarajan et al, 2010).

Software and hardware problems lead to disruption and inefficiency of mobile banking in Iran. On the other hand, lack of comprehensive information systems in banks and lack of appropriate infrastructure such as lack of effective communication networks and disruption of communication networks. Encounters obstacles. Weakness in staff training also delays the use of mobile banking, because sometimes it is seen that employees do the work manually even with the establishment of a mechanized system in addition to using these systems (Junaid, 2007).

A prerequisite for e-commerce in Iran is the existence of Internet lines and connection to it, but in the end, this limits the use of this phenomenon in places that do not meet this prerequisite. The use of Internet lines can be used to activate financial transactions, but its use is not required and any other type of network can be used to transmit information. Therefore, considering that mobile phones are more than the number of other means of mass communication such as personal computers and landlines, it is clear that mobile phones promise an increasing and significant growth. The mobile phone has the ability to be considered as one of the main channels of bank funds transfer and as an efficient and easy payment tool. Superiority over PC, robust systemology, system security, availability, simplicity, speed and efficiency are unique features of mobile phones compared to other modern banking services. It should be noted that in this study, electronic banking is a method of banking in which the customer at all hours of the day and without physical presence in the branches of Agricultural Bank, using the secure electronic services provided by the bank Use banking services.

In this regard, mobile-based banking is one of the newest achievements in the field of technology in the banking industry and has provided many benefits for banks and their customers. Staying competitive, reducing costs, ena

bling wider communication activities, saving time and money, providing easier access and at the same time faster service delivery can be considered the benefits that mobile-based banking has brought to bank customers (Kolodinsky et al., 2010). Therefore, the interest of bank managers in knowing what factors increase the use of services such as mobile-based banking by their customers, can be justified, and identifying the factors affecting the acceptance and use of these services, the possibility of better planning to accelerate the growth of users. Mobile-based banking services and faster utilization of the benefits of this new phenomenon for banks as well as users of these services. The widespread use of mobile phones by

banks provides an opportunity for banks to provide one of the electronic banking services while providing a new service in line with customer needs and reducing the problems caused by traditional banking, in a competitive environment to attract potential customers and thus Increase your profitability.

In this regard, and considering the above, the focus of the present study is on the customers of Keshavarzi Bank branches, because this bank is the third state-owned bank in Iran and currently operates in the field of providing loans, micro banking services and private banking and its main focus is on providing services. Finance and banking to the agricultural industry and now owns a network of 2,000 branches throughout Iran. One of the positive features of Keshavarzi Bank in the field of information technology is having a comprehensive and suitable website to inform the bank's audience and customers. The official information base of Keshavarzi Bank, which can be viewed at www.agri-bank.com, was designed, implemented and launched in 1998 as the first bilingual intranet in the country's banking system.

However, despite the development of technology and the access of many people in the community to the Internet, it seems that the acceptance of electronic banking services by customers in Iran is still low. Therefore, conducting studies in the field of accepting electronic banking services will help banks to improve their understanding of the factors that are effective in accepting electronic banking services.

The purpose of this study is to provide a rich insight into the factors affecting the acceptance of electronic banking technology by customers of Keshavarzi Bank in order to develop the electronic banking system. Examples of electronic banking that we will pay more attention to in the following are: Internet banking, which means performing all banking operations through the website created by the bank, said that this type of banking is general and includes remote banking and home banking. The bank's telephone also allows the bank to respond to customers. Customers can receive bills and be aware of their account balance by making a telephone connection with the bank. SM Bank has also provided the possibility of providing services such as balance announcement, account turnover, missing check notification, etc., just by having a mobile phone. ATMs, sometimes called ATMs, ATMs and instant banks, are electronic devices that allow bank customers to withdraw money from their account or balance their bank account at any time with their bank card. Check as well as transfer money. Sales terminals, along with banks and electronic money are other examples of electronic banking system. In this research, while reviewing the researches done in the field of technology acceptance

patterns and identifying the variables affecting the acceptance of electronic banking and also using the opinions of experts in this field who reached a consensus using Delphi technique, a model for examining the acceptance of this The technology was provided by customers of agricultural banks benefiting from electronic banking in Ilam province. It should be noted that this study was implemented in Ilam province and on the customers of the branches of agricultural banks in this province. Agricultural Bank is one of the specialized banks in the country and approved by the Central Bank of the Islamic Republic of Iran, whose mission is to support the agricultural sector and its sub-sectors. Keshavarzi Bank currently has 1817 branches and 50 branches provide foreign exchange and international services. In this regard, considering the issuance of more than 41,000 bank cards last year in the branches of the Agricultural Bank of Ilam Province, it is clear that this province is transitioning from the traditional banking system to modern banking. According to the public relations report of the management of Ilam Agricultural Bank branches, the development of electronic banking in this province and increasing the satisfaction of the bank's customers is on the agenda of this management (Agricultural Bank, 1399). Therefore, studying in this regard and examining the factors affecting the acceptance of these new banking services in this province is very important.

Therefore, the main question of the present study is what factors affect the acceptance of electronic banking technology by experts and specialists in this field and also these factors are able to explain what percentage of the variance of electronic banking technology acceptance among customers of agricultural banks in Ilam province .

Literature review

In their study, Chang et al. Showed that perceptual usefulness has a positive effect on behavioral intention and this relationship varies at different ages (Chung et al., 2010).

The results of Park et al.'s research showed that there is a positive and direct relationship between ease of use and perceptual usefulness (Park et al., 2010).

Goliu et al. Also found in their study that ease of use and trust have a great impact on perceptual usefulness and ultimately the acceptance and use of technology (Gu Liu et al., 2009).

McKechnie et al., In a study of 300 Internet users as distribution channels for financial services in the UK, found that perceptual usefulness, along with ease of use, leads to a positive attitude towards the use of technology (McKechnie, et al., 2010)

Ivano's research shows that habit shapes consumer behavior after technology adoption. Habit is stable, which can guarantee long-term use of technology. Habit moves and facilitates the process of technology acceptance and also realizes that habit has a moderating role in the intention to use and continue using technology (Ivano, 2018).

Min Lee et al. (2011) conducted a study entitled "Factors Affecting the Mobile Business Experience Experience" among mobile phone users. The results of this study showed that: a) Emotions have a significant role in the experience of using the associated business. B) Enjoyable factors have a positive effect on user experience while factors related to ease of use have a negative effect on customer experience. C) Experimental findings indicate that media richness is as important as subjective criteria and more important than comfort and self-efficacy (Min li et al., 2011). The results of Huang (2011) study, entitled "Behavioral tendency to use IT in the first line and middle managers (using the TAM model) was to answer the question of whether TAM can use information technology in the first line and middle managers. Promote and show that attitude is an important and effective factor on the behavioral tendency of using information technology and perception of usefulness had a significant effect on attitude, while perception of ease of use did not have a significant effect on attitude (Hui Huang , 2011). Van Hessia and Tseng (2010), in their research entitled "The Impact of Internal Control Source on Understanding the Usefulness and Ease of Use in E-Learning: Development of a Technology Acceptance Model" noted that the implementation of e-learning systems is costly and Success is relatively low and still needs improvement. The results of this study showed that understanding easy use had a significant positive effect on understanding the usefulness and behavioral tendency to use technology. Self-efficacy in the use of technology has also had a positive effect on perception of ease of use and behavioral willingness to use (Wen Hsin & Tseng., 2010).Chi Li (2010), in his research entitled "Factors Affecting Internet Banking Integration, Integrating TPB and TAM with Understanding Risk and Understanding" stated that online banking (Internet banking) is one of the most profitable e-commerce applications Has emerged. The results of this study supported the linear relationships between the proposed model variables and the willingness and attitude to use online banking (Chi Lee, 2010).Raksha et al. In a study entitled "Study of the effect of communication program and acceptance of e-banking in 2012 - Singapore" to examine the relationship between bank communication

program with the customer in the form of relationship marketing and its effect on customer decision on acceptance and use of e-banking They started as a new banking product. The results of this study showed that legal customers' satisfaction with their banks does not have a direct effect on their willingness to use e-banking. However, since customer satisfaction has a significant effect on the other two components, namely trust and commitment, and these two variables have a direct effect on customers 'willingness to use e-banking, so it can be concluded that customer satisfaction indirectly affects customers' willingness to The use of e-banking has a direct effect and customer satisfaction indirectly affects the customer's desire to use e-banking (Rexha et al., 2012).

In a survey conducted by Pandey et al., Most respondents were concerned about the security of e-banking and stated that transactions in this type of banking were unreliable (Pandey et al., 2015).

In general, by reviewing the existing literature in the field of research, many components affect the acceptance of electronic banking technology. A review of this research shows that the study of these components and their sub-components in the form of a model and determining the causal relationships between these factors to identify the behavioral intent of individuals on the use and acceptance of electronic banking technology in this study is less Attention has been drawn to and often limited to a number of factors influencing the adoption of technology, and they have not had a comprehensive view of the issue that the study gap clearly shows the value of the present study.

Scope of research

The present research is on the topic of acceptance of electronic banking technology and thematically designs the model of acceptance of electronic banking technology.

Spatial range The field of research is Ilam province (Figure 1). Ilam province with an area of 20150 square kilometers and 1.2 percent of the area, is considered the 22nd province in terms of area. Its geographical position on Earth is between 45 degrees and 24 minutes to 48 degrees and 10 minutes east longitude of the Greenwich meridian (origin) and 31 degrees and 58 minutes to 34 degrees and 15 minutes north of the equator. This province is located in the west of the country and has three districts and six villages. Ilam province, with 425 km of border with Iraq, has the longest border among the provinces with this country. Neighborhood with Iraq has a significant impact on the political, economic and social situation of the province. According to the objectives, this research will start in October 2017 and will continue until March 2017.

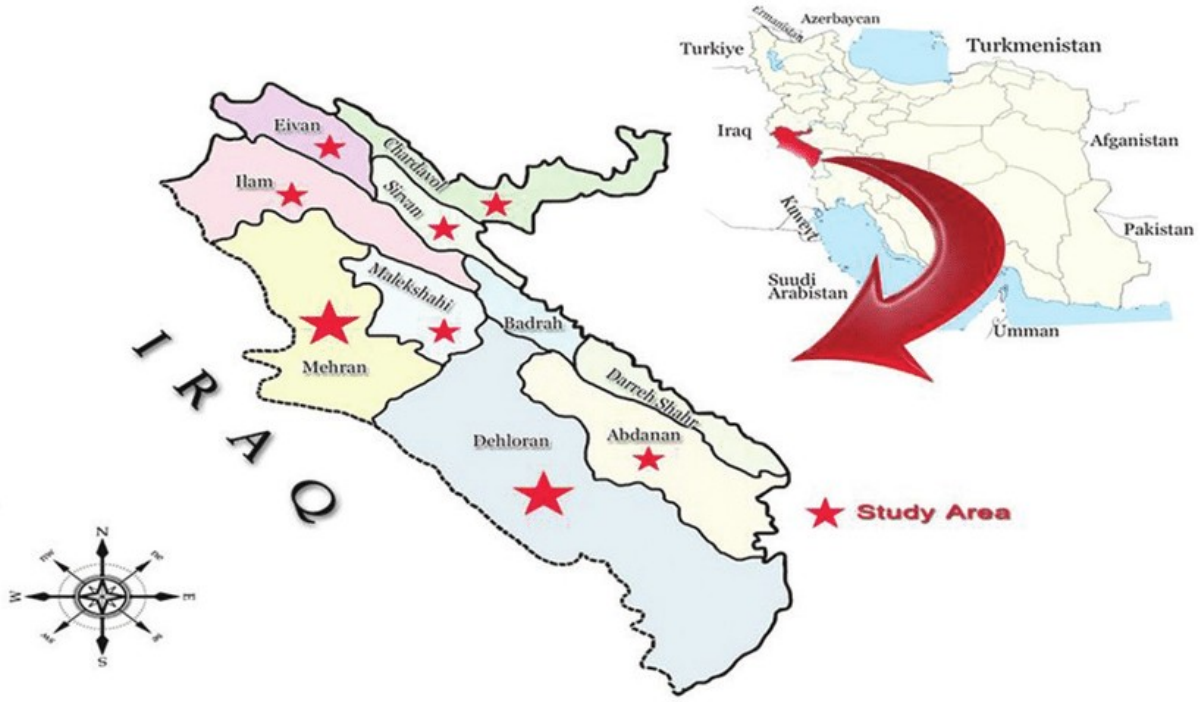

Figure 1 Geographical location of Ilam province

Methodology

Usually, scientific research is divided according to the paradigm, the purpose of the research, how to collect and analyze data, the degree of control and degree of control over variables and the time horizon, which is discussed below. The intellectual orientation (paradigm) governing the present study is integrated (qualitative-quantitative). Integrated research is the simultaneous or consecutive use of both quantitative and qualitative methods, which, while combining both methods, achieves a new combination beyond the independent use of each of them, and at the same time considers the paradigm logic of both methods. (Creswel et al., 2005). In general, the integrated research model, compared to any qualitative or quantitative research method, provides more comprehensive evidence to examine the research problem. Researchers can use most of the tools available for data collection and are not limited to using specific types of data collection methods related to quantitative or qualitative research. Exploratory integrated research projects, the researcher seeks to find out about a particular situation. For this purpose, qualitative data should be collected through which the researcher can identify different aspects of the phenomenon and enable the formulation of hypotheses, then collect quantitative data to test the hypotheses. In situations where none of the

quantitative and qualitative methods alone meet the needs of the researcher, this method describes the research and points out that the combined research method provides a better understanding of the phenomenon. Studies performed with integrated methods are generally divided into two categories: simultaneous and consecutive. Simultaneous integrated plan is a plan in which two quantitative and qualitative approaches are simultaneously designed and implemented, in contrast, a sequential plan is a plan in which one approach is designed and implemented following the other approach (same) . Each of the simultaneous and consecutive integrated designs is classified into three subgroups of simultaneous angular, simultaneously nested, and simultaneously variable integrated designs, and consecutive explanatory, exploratory, and consecutive variables (Creswell, 2003). Based on the mentioned cases, in general, the present research is of quantitative-qualitative type (combined or mixed), which emphasizes the combination of two types of quantitative and qualitative methods to achieve a detailed study. Also, the design of the present study is exploratory from the perspective of Crasswell and Plano-Crack (2007); Because first the qualitative stage of the research is done and the output of this stage enters the quantitative phase and a wider study.

The current study is an application that comprises fresh and novel investigations to enhance knowledge or comprehension of the issues under study. This study stresses pragmatism in the process, where social reality emerges from genuine connections. Monitoring changing rate and control:

This descriptive (non-experimental) research is a useful strategy for investigating behavioral sciences and the link between Variables, hypotheses, ideas, and rules are covered. This is a cross-sectional descriptive survey gathered over time.

Data collection tool

One of the main parts of any research work is data collection. If this is done in a regular and correct way, the work of analyzing and concluding the data will be done with good speed and accuracy. Data collection is done according to the objectives of the research.

Data collection in this research was done in two ways: library and field:

1- Library method: In order to strengthen the theoretical foundations of the research and benefit from the results of similar studies in Iran and the world, before conducting field operations, a review of the research literature was considered in depth and extensively. In this regard, documents, books, scientific journals, collections of articles, databases and Internet resources were examined and the results of research on the subject

of research were used to identify variables, hypotheses and theoretical foundations of research.

2- Field method: In the field study, in order to obtain the information required for the research, using a questionnaire, observation and semi-structured interview, the necessary information was collected to achieve the objectives and answer the research questions.

In this study, two categories of tools were used to collect information:

- The first type of information gathering tools, resources and computer networks and libraries.

- The tool for collecting information and data of the second type in the qualitative phase is direct observation and semi-structured interviews with knowledgeable and expert people in the field of electronic banking and a questionnaire that was developed by examining various internal and external sources based on Delphi technique.

- The tool for collecting information and data of the second type in the quantitative phase was a questionnaire, which is described below.

Delphi Method: The Delphi method is a structured communication method or technique that was originally developed and developed for the purpose of systematic and interactive prediction based on the thinking of experts. This method, which will be used in the future of research, mainly pursues goals such as discovering innovative and reliable ideas or providing appropriate information for decision making. The Delphi method is a structured process for collecting and classifying the knowledge available to a group of experts and experts, which is done by distributing questionnaires among these people and controlled feedback on the answers and opinions received (Habibi et al., 2014).

The Delphi technique can be used to "identify" and "sift" the most important decision-making indicators. Thus, although the Delphi method is not a multi-criteria decision-making method, in many cases, before applying multi-criteria decision-making techniques, this technique is used to screen indicators or reach an agreement on the importance of decision-making indicators. The Delphi method is based on the approach of polemical research, ie: opinion or thesis (creation of opinion or opinion), counter-opinion or antithesis (dissenting opinion and opinion) and finally the construction of synthesis (new agreement and consensus) which follows the process of building a new theory. Is created. According to Helmer, Delphi is a useful communication tool between a group of experts that makes it easy to formulate group members' opinions.

Emphasizing the importance of the Delphi method, Wisma refers to it as a method for "a univariate exploration" to predict the future of technology. He adds that the Delphi method is designed to enable discussions between experts to prevent the influence of social interactions that usually occur in group discussions, which hinders the formation of ideas and opinions.

Baldwin believes that in the absence of knowledge available to decision makers, they are forced to make decisions based on their own direct perceptions or expert opinions.

Fowle suggests the following steps for performing the Delphi method:

1. Formation of Delphi Execution and Supervision Team,

2. Selection of one or more boards (panels) to participate in the activities. The members of these boards are usually experts in the field of research,

3. Launching questionnaire preparation activities for the first round,

4. Examining the questionnaire from a written point of view (removing inferential ambiguities, etc.),

5. Sending the first questionnaire to the members of the boards,

6. Analysis of the answers received in the first round,

7. Preparing the second round questionnaire (with required revisions),

8. Sending the second round questionnaire to the members of the boards,

9. Analysis of the answers received in the second round (steps 7 to 9 continue until achieving stability in the answers found),

10. Report preparation by the processing team (Habibi et al., 2014)

Therefore, according to the mentioned explanations and topics, the Delphi method in the present study was implemented in four stages; The first phase began with the definition of the research issue and ended with the identification of the panel members, which included 20 experts and subject matter specialists in the field of electronic banking. In the second stage, the panel members were asked to present their ideas on the research issue (factors affecting the adoption of electronic banking technology). In this stage, by analyzing and refining the ideas presented, removing duplicates and using the same words, list Finally, these effective factors were extracted.

In the third stage, experts determined the importance of these factors or selected some of the most important ones, which reduced the number of components to some extent. Finally (the fourth stage) was dedicated to

reviewing the importance of these factors based on the results of the previous stage or determining the order of importance of the extracted factors. At this stage, when the people were informed about the opinion of the group members about the importance of each factor, the importance of each factor was reconsidered. The members' reconsideration continued until a consensus was reached among the panel members regarding the factors affecting the acceptance of electronic banking and the importance of each of these factors (Figure 1). The output of this stage of the research was the design of a conceptual model and a research questionnaire to continue the research stages in the quantitative phase and access to the required data on a large scale (statistical population).

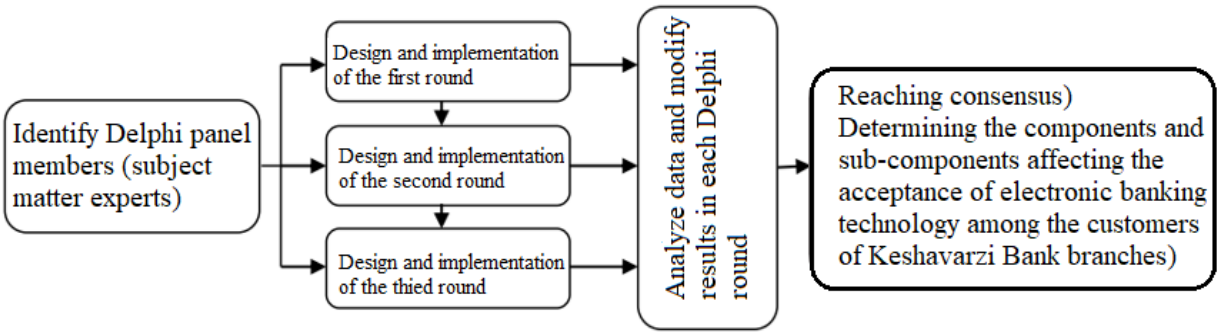
Identify Delphi panel members (subject matter experts)
Design and implementation of the first round
Design and implementation of the second round
Design and implementation of the thied round
Analyze data and modify results in each Delphi round
Reaching consensus)
Determining the components and sub-components affecting the acceptance of electronic banking technology among the customers of Keshavarzi Bank branches)

Figure 2 The process of implementing the Delphi method in the qualitative part

Validity of research tools

The present research tool is taken from the opinions of experts, which were obtained using the Delphi technique, the main components of the research, and the research tool was designed. In order to confirm the reliability of the designed questionnaire, before entering the large-scale data collection stage, a pre-test study was used and 38 questionnaires were distributed among customers of agricultural banks in Ilam and outside the main sample of the study. The reliability of the questionnaire for conducting research is acceptable. Table 1 shows the Cronbach's alpha coefficient calculated for the items studied in the research questionnaire.

Table 1 Calculation of Cronbach 's alpha calculated for the items studied in the research questionnaire

Interpreta	Cronbach's	Numbe	Variables

tion	alpha (α)	r of items	
Acceptable _	71/0	6	Adoption of electronic banking technology
Acceptable _	78/0	4	Tendency to use electronic banking technology
Acceptable _	76/0	5	Easy to understand application of electronic banking technology
Good	85/0	4	Understanding the usefulness of electronic banking technology
Good	88/0	4	Socio-cultural factors
Good	80/0	5	Technology features
acceptable	72/0	4	Type of service used

research findings

As mentioned, the working members of the Delphi group for this study were 20 experts and subject matter specialists in the field of electronic banking. These individuals were selected by first selecting a number of experts with knowledge and expertise related to the subject of e-banking, and then asking each of them to identify other individuals who would be suitable to participate in the research. Eventually, with the initial number, the total number of working members of the group reached 20. The Delphi method was implemented in this study in four basic steps. In the first stage, the research problem of definition (identification of factors affecting the adoption of electronic banking technology) was completed and the members of the working group were appointed. The second stage was dedicated to generating ideas in the field of research problem. At this stage, the members of the working group were asked to present their ideas about the factors affecting the adoption of electronic banking technology. After the ideas were presented by the experts, by analyzing and refining these ideas and eliminating duplicates, he prepared the final list of factors affecting the adoption of electronic banking technology. In the third stage, experts were asked to determine the importance of these factors by selecting some of the

most important ones. Accordingly, the number of factors affecting the adoption of electronic banking technology was greatly reduced. In the fourth stage, the importance of the factors obtained from the previous stage was reviewed and revised by experts, and this revision of the members continued until a consensus was reached among the experts regarding the factors obtained.

Results of the first round of the Delphi method

The questionnaire in the first round consisted of two parts as follows: In the first part, the list of factors affecting the acceptance of electronic banking, which was extracted from previous research, was presented to experts. The description in Table (4-1) remained. In the second part of the questionnaire, the expert had to express his opinion on the impact of each of these seven factors in the process of accepting electronic banking by choosing one of the options available to him. These options are in the form of Likert spectrum and include very low impact: 1. Low impact: 2. Medium impact: 3. High impact: 4 and very high impact: 5. In this section, the order of importance of each factor was obtained based on the average of responses.

Table (4-1). Expert opinion on the factors affecting the acceptance of electronic banking extracted from previous research

Order of importance	Number of replies	Description of the agent
1	20	Understand the ease of use
2	20	Type of service used
3	20	Technology features
4	20	Experience using electronic banking services
5	20	Job relationship
6	20	Mental norm
7	20	Attitude to technology

4 -2-1-2- Results of the second round of Delphi method

The next part of the Delphi method was dedicated to presenting factors that were not in the list of factors in the first part but were important and key in

the opinion of experts. Finally, after removing the duplicates, six factors were extracted, which are presented in Table 4-2.

Table (4-2). Factors affecting the adoption of electronic banking technology from the perspective of experts

Number of replies	Description of the agent	No
20	psychological factors	1
20	Understand the usefulness of the application	2
20	Technical complexity	3
20	Organizational factors	4
20	Technical compatibility	5
20	Socio-cultural factors	6

4-2-1-3- Results of the third round of the Delphi method

In the third round questionnaire, a list of factors that participants in the second round were identified as factors affecting the acceptance of electronic banking. In this round, experts were also asked to comment on the impact of each of these six factors in the e-banking acceptance process by choosing one of the options available to it. These options are in the form of Likert spectrum and include very low impact: 1. Low impact: 2. Medium impact: 3. High impact: 4 and very high impact: 5. In this section, the order of importance of each factor was obtained based on the average of responses.

Table (4-3). Arrange the importance of each of the factors affecting the adoption of electronic banking technology from the perspective of experts

Order of importance	Number of replies	Description of the agent	No
1	20	Organizational factors	1

2	20	Understand the usefulness of the application	2
3	20	Socio-cultural factors	3
4	20	psychological factors	4
5	20	Technical complexity	5
6	20	Technical compatibility	6

4-2-1-4- Results of the fourth round of Delphi method

In the questionnaire prepared in the fourth round, factors were presented that experts in previous stages had identified as key factors affecting the adoption of electronic banking technology. The mean effect of these factors was "high" and "very high" (items weighing 4 or more containing 5 items). In this section, experts should re-express their views on the impact of each of the factors affecting the acceptance of e-banking, by choosing one of the options available to it. These options in this section are also in the form of Likert scale and include very low impact: 1. Low impact: 2. Medium impact: 3. High impact: 4 and very high impact: 5. In this section, the order of importance of each factor was obtained based on the average of responses.

Table (4-4). Arrange the importance of each factor on the adoption of electronic banking technology from the perspective of experts

Order of importance	Number of replies	Description of the agent	No
2	20	Understand the usefulness of the application	1
3	20	Socio-cultural factors	2
4	20	Understand the ease of use	3
5	20	Type of service used	4
6	20	Technology features	5

Finally, after performing the four basic stages of the Delphi technique, a consensus was reached on the factors affecting the adoption of electronic banking technology, and thus the conceptual framework of the research was formed.

Conceptual framework of research

Finally, with the consensus of experts, 5 factors were introduced as the most important and influential factors on the acceptance of electronic banking technology, which are: easy understanding of technology use by the customer, understanding the usefulness of electronic banking technology by the customer, social and cultural factors. The acceptance of any type of technology is influential, the specific features of electronic banking technology as well as the type of electronic banking services. In this regard, according to the literature review and theoretical models of research and with a survey of professors, the variable of the tendency to use technology was added to the framework. Accordingly, the conceptual framework of the present study is presented as follows (Figure 2-6).

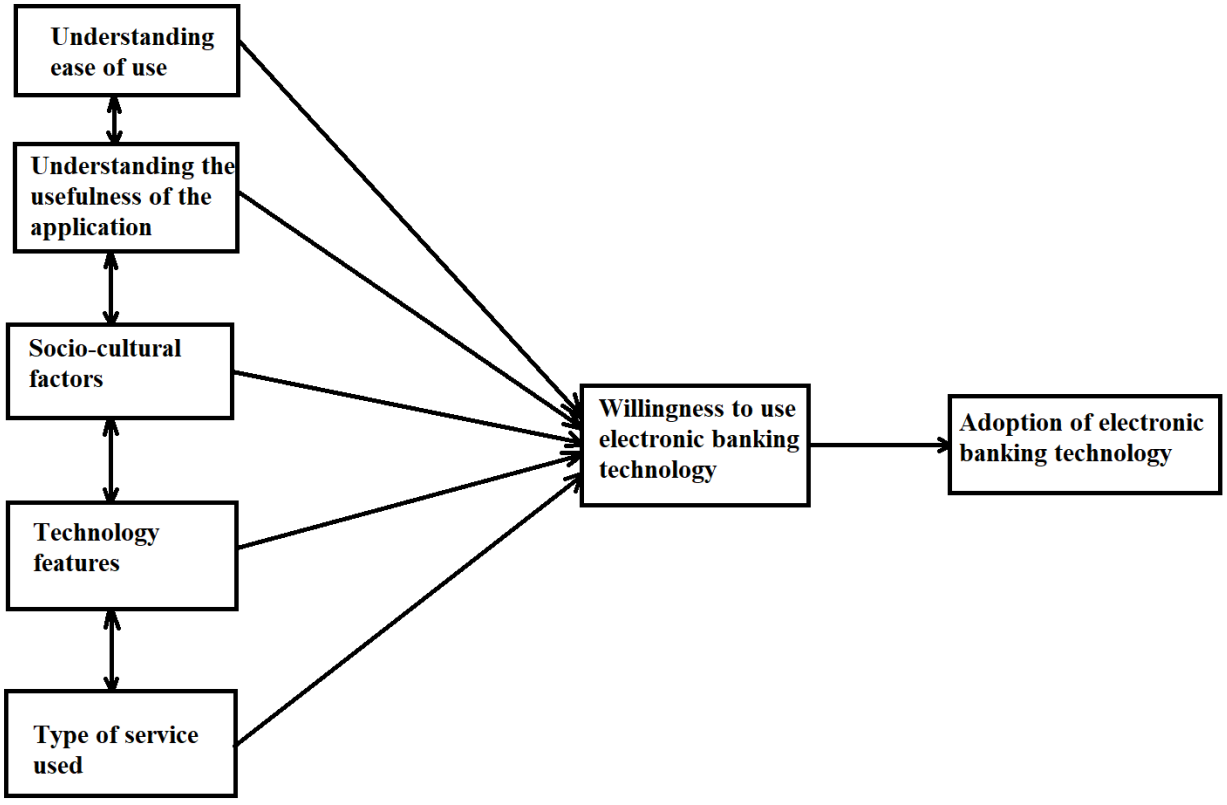
Understanding ease of use
Understanding the usefulness of the application
Socio-cultural factors
Technology features
Type of service used
Willingness to use electronic banking technology
Adoption of electronic banking technology

Figure 2-6 Conceptual framework of research

Quantitative section findings

Findings indicate that in terms of location, 269 people (67.3%) of the respondents live in the city and also 130 (32.5%) percent of the respondents live in the village (Table 4-5).

Table (4-5). Frequency distribution of respondents by location n = 400))

View (Fashion)	Percentage	Abundance	Variable levels	Variable
City	3/67	269	City	**Address**
	5/32	131	Village	
	100	400		**total**

In terms of gender, the findings showed that 318 (79.5%) were male and the rest were female (82 or 20.4%) (Table 4-6).

Table (4-6). Frequency distribution of respondents by gender n = 400))

Percentage	Abundance	Variable levels	Variable
5/79	318	Man	**Gender**
4/20	82	Female	
100	400	-	**total**

The average age of the subjects is approximately 42 (41.84) years with a standard deviation of 7.22 years (Table 4-7) .

Table (4-7). Mean age of respondents n = 400)

Maximum	Minimum	Standard deviation	Average	Variable
61	18	22/7	84/41	**Age (years)**

The level of education of most respondents is diploma (116 or 29%). This situation is while 6 of them (1.5%) are illiterate and 25 of them (6.3%) have the level of primary education and ... which is presented in the table below (Table 4-8) .

Table (4-8). Frequency distribution of respondents based on education level n = 400)

View (Fashion)	Percentage	Abundance	Variable levels	Variable
	5/1	6	**illiterate**	
	3/6	25	**Primary**	
Diploma	14	56	**Cycle**	**Level of Education**
	29	116	**Diploma**	
	25	one hundred and one	**Associate Degree**	
	9/23	96	**Bachelor's degree and higher**	
	100	400		**total**

In terms of employment status, 102 (25.5%) of the respondents had agricultural jobs and the rest (298 or 74.5%) had non-agricultural jobs (Table 4-9).

Table (4-9). Frequency distribution of respondents by job n = 400))

Percentage	Abundance	Variable levels	Variable

5/25	102	**Agriculture**	
5/74	298	**Non-agricultural**	**Job**
100	400	**-**	**total**

4-4-1-6- Monthly income (agricultural and non-agricultural income)

The study of the monthly income shows that the average monthly income of the respondents is 3.72 million Tomans with a standard deviation of 1.87 Is (Table 4-10).

Table (4-10). Respondents' monthly income n = 400))

Maximum	**Minimum**	**Standard deviation**	**Average**	**Variable**
10	1	87/1	72/3	**Monthly income (Million Tomans)**

Inferential statistics

4 -5-1- Checking the normality of data distribution

Kolmogorov-Smirnov test, which is a numerical method, was used to evaluate the normality of data distribution.

H0 : Data distribution is normal Sig≥0.05

H1 Data distribution is not normal : Sig < 0.05

Table (4-11): Klomogorov-Smirnov test for measuring the normality and abnormality of the studied variables

Kolmogorov-Smirnov test indices			Variables
Result	Significance level (Sig)	Statistics	
normal	35/0	89/2	Easy to understand application
normal	24/0	59/2	Understand the usefulness of the application
normal	37/0	55/2	Socio-cultural factors
normal	21/0	23/3	Technology features
normal	42/0	44/2	Services used
normal	17/0	06/2	Willingness to use

Source: Research Findings

The values obtained from the above table ($P < 0.05$) indicate that the hypothesis H0) it is approved. Therefore, with 0.95 confidence, it can be claimed that all research variables follow the normal distribution.

Correlation matrix between the main components of research

First, in order to determine the relationship between the main variables of research (technology acceptance, willingness to use, ease of use, understanding the usefulness of the application, factors Pearson correlation test was used for social and cultural factors (organizational factors , technology characteristics, services used). According to the research results, there is a positive and significant relationship between all the main variables of the research at the level of 0.01 (Table 4-12). Therefore, due to the correlation between the main variables of the research, the next stage of the research is unobstructed.

Table (4-12): Correlation matrix between the main components of the research

Servi	Technol	Socio	Underst	Easy to	Willingn	Technol	Variable

ces used	ogy features	- cultu ral facto rs	and the usefuln ess of the applicat ion	underst and applica tion	ess to use	ogy accepta nce	
						1	Technol ogy accepta nce
					1	620/0 **	Willingn ess to use
				1	571/0 **	411/0 **	Easy to underst and applicat ion
			1	521/0 **	380/0 **	450/0 **	Underst and the usefulne ss of the applicat ion
		1	353/0 **	301/0 **	409/0 **	397/0 **	Socio- cultural factors
	1	571/ 0 **	382/0 **	111/0 **	273/0 **	384/0 **	Technol ogy features
492/0 **	291/0 **	223/ 0 **	333/0 **	491/0 **	294/0 **	346/0 **	Services used

** : Significant level 1%

4-5-3- Path analysis using fit indices of structural equation models (Amos)

, the importance of advanced statistical analysis methods by statistical analysis software has attracted more and more attention of social scientists.

Using structural equation modeling to As a new method, it can help to study the complex relationships between research variables . In the present study, according to that The research model is not a simple causal model and has variable intermediaries (Mediator) In order to obtain the final research model , research should be done by analyzing the paths in this model . _ So after compiling the model, using Amos software The designed model was tested and the results are presented below.

It should be noted that in order to use Amos software Despite the differences between the models defined in Amos _ _ _ _ _ _ _ And the model paid attention . Theoretical model is a model that the researcher has defined according to the principles and theoretical framework of the model . This model mainly includes latent variables , related reagents as well as interrelationships between them . _ _ _ _ _ _ In the theory model , the researcher defines with which reagents the latent variables are to be measured and how the latent variables (and possibly some explicit variables) are to be measured . Communicate with a coder or _ _ _ They affect the coder . _ _ _ _ _ Coded model in the mouse Amos Graphics In addition to having all the components defined in the research theory model , it also has new components to work with Amos The presence of these new components or elements is essential.

Drawing an experimental model of research

For this purpose, in this section, first, the experimental research model that was previously obtained was drawn in Amos software and the obvious and hidden variables and the desired paths were defined (Figure 4-4).

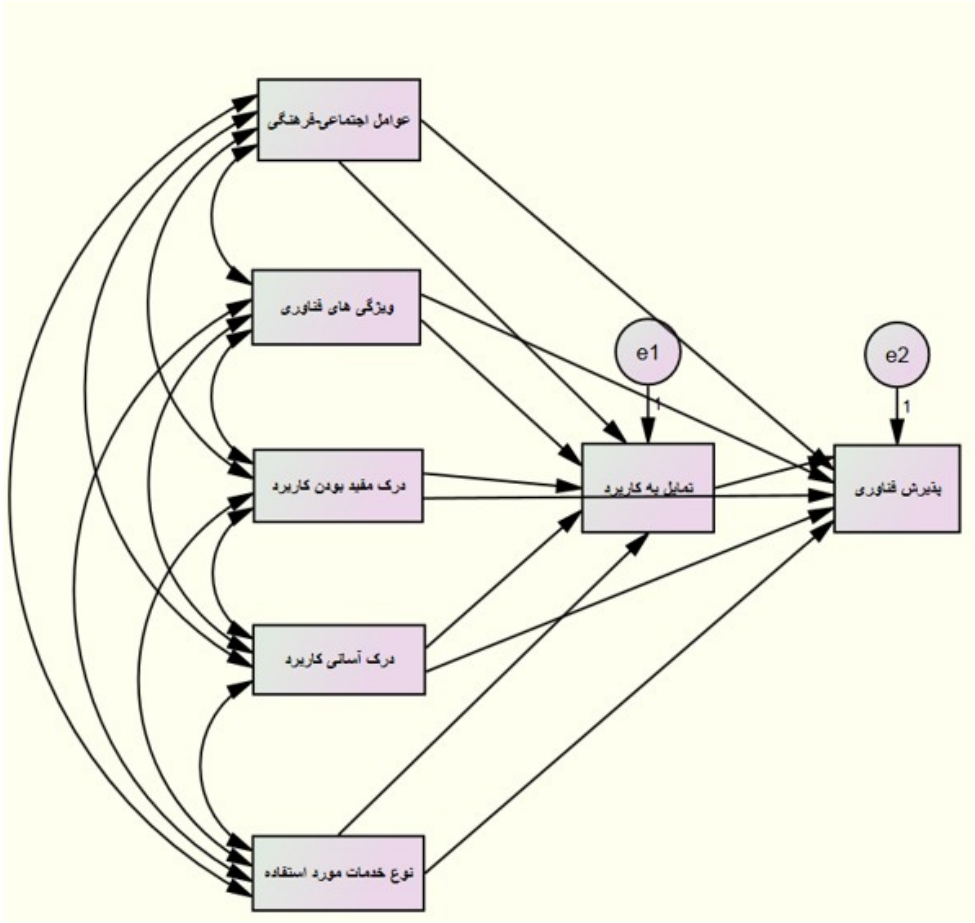

Figure 4-4. Factor structure of variables of electronic banking technology acceptance model

Determining beta values (path weights)

By entering the research data, beta values and fit indices were calculated, which are discussed below.

Figure (4-5) shows the beta values or path weights that indicate the contribution of each explicit variable in explaining the variance of the latent variable. As can be seen in this figure, at the top of the mediator variable "Tendency to use" is inserted the number 0.172, this number indicates the variance of the variable Tendency to use technology by means of those variables from which the arrow It is determined by the tendency to use the cue. Also, at the top of the variable "technology acceptance" is the number 0.428, which indicates that 42% of the variance of e-banking technology acceptance by the variables of socio-cultural factors, technology characteristics, understanding the usefulness of the application, user ease, type of service The use and desire to use technology is explained.

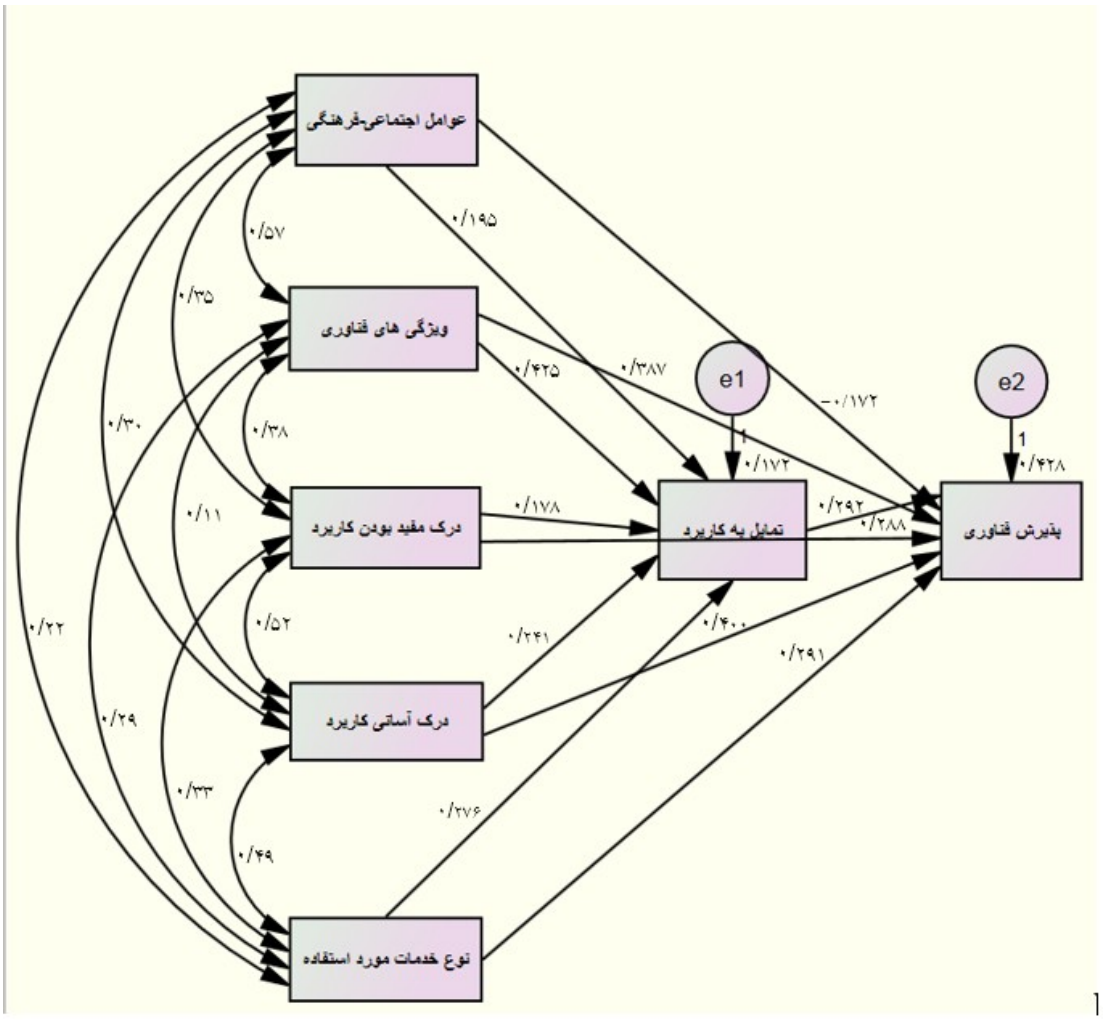

Figure (4-5). Analysis model of electronic banking technology acceptance path through variable mediation of the tendency to use technology

It should be noted that the determination of errors for variables within the model indicates that not all variance of endogenous variables of the model is predicted by exogenous variables, but there are other variables to predict the variance of endogenous variables that are not considered in this research model.

Correlation between the external components of the research model

In order to show that the choice of external variables is not random and according to the research team and also based on the existing literature and theoretical models and interact with each other, there must be a significant correlation between them that the findings The obtained shows a positive and significant correlation between these external variables. Because if the correlation between the observed variables is weak or there is no

correlation at all, there is no common variance to appear in a latent variable. In the path analysis model, these correlation coefficients are displayed numerically on two-way arrows. As shown in Table (4-12), external variables have a positive and significant correlation with each other.

Table (4-12): Correlation between the external components of the research model

Significance level (P)	Correlation coefficients	Variables
004/0	35/0	Socio-cultural factors Understanding the usefulness of the application
004/0	30/0	Socio-cultural factors Easy to understand
005/0	57/0	Socio-cultural factors, characteristics of technology
003/0	22/0	Socio-cultural factors, type of services used
004/0	49/0	Services used Easy to understand application
001/0	33/0	Services used Understand the usefulness of the application
000/0	29/0	Features of service technology used
002/0	38/0	Technology features Understand the usefulness of the application
004/0	11/0	Technology features Easy to understand application
001/0	52/0	Easy to understand application Understand the usefulness of the application

Several indicators are used to evaluate the suitability of the structural equation model. The chi-square index (X2) is an absolute fit of the model, and the larger it is than zero, the lower the fit of the model. When the sample size is 75 to 200, the chi-square (X2) is a reasonable measure of fit. But for models with larger N, the chi-square (X2) is almost always statistically significant (Bolen and Long, 1993; and Kenny, 2001; quoting

Hooman, 2009), and this means that the chi-square (X2) statistic is almost always Reject the model (Hooper et al., 2001, quoting Hooman, 2009).

Because chi-square is so sensitive to sample size, many researchers measure chi-square by its degree of freedom, which is the relative chi-square. The ratio of this index minimizes the effect of sample size on the chi-square model. If this index is less than 2, it shows excellent fit, and if it is between 2 and 5, it shows good fit, and if it is greater than 5, it shows poor and unacceptable fit of the model (Vuitton, Motten, Alvino Summers, 1977).

One of the indicators in the structural equation model is the good fit index (GFI), whose values are between zero and one variable, and the closer it is to one, the more it fits. The Modified Fit Goodness Index (AGFI) is also a general measure of fitness and measures the number of degrees of freedom. When this index is equal to 0.85 or more, the pattern fit is acceptable and values close to 0.95 indicate a good fit (Vershon, 1991, quoted by Arshadi, 2007).

Suitability indices such as adaptive fit index (CFI) and incremental fit index (IFI) are indices that compare the fit of a model with a base model that does not believe in covariance between variables (Bentler, 1990). The closer these indicators are to 1, the better the fit of the model. Of course, this value must be at least 0.90 for the model to be accepted (Bentler, 1990; Hugh and Bentler, 1995; quoted by Hooman, 2005). The abnormal fit index, known as the Tucker-Lewis index (TLI), is used to measure the better fit of a model than the independent model (ie, the zero model, assuming a zero relationship between variables) (Bentler, 1990; quoted in Arshadi). ، 1386).

Normalized fitness index (NFI), which is a normative incremental fitness index, is also used to determine the fit of a pattern. The value of these two indicators must be higher than 0.90. The root mean square approximation error index (RAMSEA) is another fit index that the second root of the mean square root remains and is interpreted as a function of the amount of covariance (Hooman, 2009). Brown and Kudek (1993) set values higher than 0.10 for poorly fitted models, between 0.08 and 0.10 for moderately fitted models, between 0.05 and 0.08 for well-fitted models, and less than 0.05 is considered suitable for models with excellent fit.

In this study, according to the results obtained from fitness indicators, the ratio of Chi-square to the degree of freedom is 3.125, which indicates that the model is desirable. Also, the root mean square of the estimation error is 0.05, which confirms the acceptability of the model. The goodness index is 0.99 and the goodness fit is 0.99 and the modified fit is 0.82, which shows that this model has a better fit than its absence. The Tucker-Lewis index

with a score of 0.99, while confirming the normalized fitness index, indicates that it does not require revision. Finally, considering the above, it can be concluded that the conceptual model of the research has a good fit, and this means that explicit variables can measure hidden variables well. The indicators of model fit in this study based on Table (4-14) are:

Table (4-14). Criteria for fitting the research model

Result	The limit is acceptable	the amount of	Model fit criteria	Index type
acceptable	Less than 0.05	0.000	Significance level (P)	Absolute indicators (model fit)
acceptable	Between 1 and 5	125/3 _ _	Chi-square to freedom ratio (CMIN / DF)	
acceptable	10/0 down	05/0 _	Mean Root of Estimated Error Squares (RMSEA)	
acceptable	90/90 and above	99/0 _	Fit goodness index (GFI)	
acceptable	90/90 and above	99/0 _	Modified Goodness Fit Index (AGFI)	Relative indicators
acceptable	Close to one	821/0 _	Modified fit index (NFI)	
acceptable	90/90 and above	99/0 _	Tucker Index - Lewis (TLI)	
acceptable	90/90 and above	98/0 _	Increasing fitness index (IFI)	
acceptable	90/90 and above	96/0 _	Adaptive Fitness Index (CFI)	
acceptable	0.60 and up	698/0 _	Relative Fit Index (RFI)	
acceptable	0.60 and up	741/0 _	Affordable Adaptive Fit Index (PCFI)	
accepta	0.60 and	854/0	Fit Index (PNFI)	

ble	up	_		

In the present study, which has confirmed the overall fit of the model, it should be seen how the significant effect of independent research variables through the tendency to use electronic banking technology on the dependent variable. In other words, what is unclear and should be followed by the bootstrap confidence interval is whether all the independent variables or one or more of them are related to the dependent variable due to the tendency to use technology. As can be seen in Table (4-15), the variables of easy understanding of technology application, understanding of usefulness of technology application, socio-cultural factors, technology characteristics and services used have an indirect effect on the variable of acceptance of electronic banking technology. It should be noted that these indirect effects, in addition to the direct effect of each of these variables on the dependent variable of the research.

Table (4-15). Indirect effects of independent variables through the tendency to use technology on the adoption of electronic banking technology

Tendency to use technology	**Services used**	**Technology features**	**Socio-cultural factors**	**Understand the usefulness of the application**	**Easy to understand application**	Variables
-	-	-	-	-	-	Tendency to use technology
-	08/0	124/0	056/0	050/0	071/0	Technology acceptance

Conclusion

This research examined how agricultural bank clients in Ilam province adopt electronic banking. This research aimed to establish a model for adopting electronic banking technology that may help identify customers' demands and enable agricultural bank management develop suitable strategies. The study's results may pave the path for additional research and actions to enhance electronic banking technology in Ilam province. This chapter reviews the study results and offers practical advice. This study may lead to future investigations and assist promote electronic banking in Ilam province. In the qualitative phase of the study, experts' perspectives on the components impacting the adoption of electronic banking technology were studied. After analyzing and evaluating records of studies completed in this sector, six elements were identified with the consensus of experts. The most essential and relevant elements on the acceptability of electronic banking technology are consumer knowledge, the utility of the technology, and social and cultural considerations. Quantitative research was utilized to analyze and test the research model. 20 experts and theme specialists in electronic banking were chosen by non-probability sampling for this study's qualitative stage (purposive type). Customers of all 30 branches of Agricultural Bank of Ilam province who utilized electronic banking services were included in the quantitative research population (1399). According to the Agricultural Bank of the Province in 1398, there were 200,000 of these individuals. According to Krejcie and Morgan's formula for establishing sample size, 384 persons are adequate, although 400 people were used for this research. Stratified random samples were proportionally assigned from eight cities in Ilam province. Each floor's (city's) sample size is proportionate to the number of Agricultural Bank clients in that city. Each of the study conceptual model's primary variables has a positive and substantial link with others. Also, the correlation test between the research's primary variables demonstrated a positive and significant association between all components of the conceptual framework and the dependent variable (adoption of electronic banking technology), indicating the model's validity. Because the research model is not a simple causal model and involves mediating factors, its routes must be evaluated to reach the final model. After compilation, the model was evaluated using Amos. By inputting the study data, beta values or route weights were computed, indicating the contribution of each explicit variable in explaining the hidden variable's variation. In Chapter 4, the variance of the mediator variable "Tendency to utilize" was 0.172. Technology used to determine the arrow's variables. The variable "technology acceptance" had a value of 0.428, indicating that socio-cultural factors, technical features, application usefulness, user convenience, and kind of services accounted for 42% of the variation in e-banking technology adoption. In other words, desire to use, convenience of use, knowledge of utility of usage, social and cultural

factors, technical attributes, and services utilized explain 0.428 of the variation in electronic banking technology adoption. Ease of use, knowledge of application usefulness, social and cultural factors, and technical attributes explained 0.172 of the variation in electronic banking use. The simplicity of technology application by the client has the largest influence on electronic banking technology acceptability, according to the study. The qualities of electronic banking technology, the kind of services offered, and the application's usefulness had the most influence on adoption. On the other hand, the results showed that social and cultural factors may not have a positive effect on the acceptance of electronic banking technology and may even act as a barrier. In traditional societies, the acceptance of new technology by people is sometimes impossible, and these people influence others' willingness to adopt new technology. In this research, the ratio of Chi-square to degree of freedom is 4.25, indicating that the model is suitable. The estimate error is 0.10, confirming the model's acceptability. The goodness index is 0.833, the goodness fit is 0.770, and the modified fit is 0.877, indicating that this model is better than none. Tucker-Lewis index of 0.883 confirms normalized fitness index and suggests no revision. The research's conceptual model fits well, therefore explicit variables may assess hidden factors effectively.

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